Message

From: Chesnutt, John [Chesnutt.John@epa.gov]
Sent: 1/22/2021 12:28:09 AM
To: Herrera, Angeles [Herrera.Angeles@epa.gov]
Subject: FW: EPA review of NAVY Building Remediation Goals

fyi

From: Daniel Hirsch <Ex. 6 Personal Privacy (PP)>
Sent: Monday, January 4, 2021 4:13 PM
To: Praskins, Wayne <Praskins.Wayne@epa.gov>
Cc: Sanchez, Yolanda <Sanchez.Yolanda@epa.gov>; Stuart Walker <stuartwalker@verizon.net>
Subject: Re: EPA review of NAVY Building Remediation Goals

Hi Wayne,

I hope you had a peaceful holiday season.

As the new year begins, I want to reiterate my request, one more time, to be provided with the written BPRG assessment/review/report that must have formed the basis for your letter of August 20, 2020, to the Navy entitled "EPA Review of Navy Draft Evaluation of Radiological Remediation Goals for Onsite Buildings-Hunters Point Naval Shipyard Superfund Site." In that letter you state, "We completed our review of the Navy evaluation of radiological building RGs in consultation with EPA Headquarters and with assistance from the U. S. Army Corps of Engineers Radiation Safety Support Team and the Department of Energy's Oak Ridge National Laboratory (ORNL)." Elsewhere you refer to calculations involving EPA's National Superfund Expert and ORNL with a modified version of the BPRG calculator. We would like to see the document(s) containing these analyses/calculations upon which you based your August 20 letter.

Secondly, we would appreciate receiving copies of any response you may have received from the Navy to your August 20 letter and any associated correspondence between EPA and the Navy on the subject.

Third, as to your responses below, a few quick points:

a. I had previously told you that the values we get from the running the BPRG calculator are about two times more protective than the values you cite for the situation that uses the default assumption of contamination above 6 feet. (Compare your table below with ours at page 19 of our report, "Hunters Point Shipyard Cleanup Used Outdated and Grossly Non-Protective Cleanup Standards.") Our table is based on 10^-6 risk, but you will see that at 10^-4 the values are still about twice as protective as the ones you are using. I believe that is because you didn't follow the decision made by the EPA in 2018 that calculations should be based on assuming exposure to hard surfaces alone and the exposure time for hard surfaces must be changed accordingly. (Letter, September 21, 2018, from Lily Lee to Derek Robinson, "EPA Comments on the Draft Fourth Five-Year Review, Hunters Point Naval Shipyard, San Francisco, California, Dated July 9, 2018," pp. 4-5.) And yes, of course, we converted to dpm/ 100 cm^2.

b. The use of 10^-4 levels is inappropriate. We are not in a situation where buildings have all been remediated and a 5-Year review is being conducted thereafter to see if they are still protective. We are in a situation where remediation is to occur and a decision needs to be made as to the cleanup standard to be applied. The standard needs, according to CERCLA, to be as close to 10^-6, the point of departure, as possible, and only fall back the minimum necessary from that and only if the 9 balancing and other criteria have been weighed, in a public process with public input. None of that has occurred here. EPA really needs to be insisting on 10^-6 cleanup levels, in part to provide a margin of safety for future discoveries, given the troubled history to date regarding the botched cleanup at HPNS.

c. There is no basis for EPA doing its BPRG calculations on the basis of weakened inputs to the calculator that *assume* there is no contamination above 6 feet, when there is no evidence that is the case. A protectiveness review must be based on evidence if one is to weaken the inputs.

d. The claim that the Navy will carefully measure above 6 feet to determine if there is contamination is not borne out by the passages of the Navy plan you cite. The Navy is classifying all surfaces above 6 feet as either MARSSIM Class 2, requiring far less rigorous measurements, or as purportedly non-impacted, which will receive no measurements at all. There are simply *assuming* it is unlikely there is contamination above 6 feet and then doing such minimal measurements it is unlikely they would be able to find it if it is there. Further, the Navy plan is using as its background a potentially impacted building in the middle of the Superfund site, a few feet from structures it concedes are impacted and surrounded by soil that is potentially contaminated and can have been tracked in for years, violating fundamental principles of MARRSIM requiring background be from places that cannot possibly be contaminated. Additionally, it appears that all or the great majority of the measurements are just scans, rather than actual sampling of removable contamination and sending it to a lab for careful measurement with good detection limits. Simply arbitrarily assuming 20% of contamination is removable and then only doing scans, plus the highly questionable background location, and the designation of most of the structures as Class 2 with woefully weak survey coverage, are just a few more signs that the Navy is repeating the kind of troubling steps that led to the Tetra Tech scandal and the need for retesting in the first place.

e. I see no sign that EPA, either in its own calculations or in what it is requiring of the Navy, is summing the risks from the external exposures and the internal exposures. You indicate that for at least four radionuclides, the Navy's Remediation Goals exceed the 1 10^-4 risk level, which the Region has repeatedly in the past insisted on as the upper limit of the risk range. In your email you indicate a risk from fixed contamination alone more than double the 1 x 10^-4 level, even assuming zero contamination above 6 feet. So, if the removable contamination were allowed at 1 x 10^-4, or more than that, the combined risk could readily exceed 3 x 10^-4, about which there is no question of exceeding the acceptable risk range.

I look forward to receiving the documents on which your August 20 letter to the Navy was based, and any subsequent correspondence from and to the Navy about it.

Thanks,

Dan

> On Nov 10, 2020, at 10:53 AM, Praskins, Wayne <Praskins.Wayne@epa.gov> wrote:
>
> Dan – Sorry for the delayed response. Please see my additional responses in blue. If you want to discuss further perhaps we should set up a time to talk.
>
> Wayne Praskins | Superfund Project Manager
> **U.S. Environmental Protection Agency Region 9**
> 75 Hawthorne St. (SFD-7-3)
> San Francisco, CA 94105
> 415-972-3181
>
> **From:** Daniel Hirsch <Ex. 6 Personal Privacy (PP)>
> **Sent:** Thursday, October 8, 2020 4:43 PM
> **To:** Praskins, Wayne <Praskins.Wayne@epa.gov>
> **Cc:** Sanchez, Yolanda <Sanchez.Yolanda@epa.gov>; Walker, Stuart <Walker.Stuart@epa.gov>
> **Subject:** Re: EPA review of NAVY Building Remediation Goals

Wayne,

Your response creates more questions than answers. See below (in green font).

Dan

On Oct 8, 2020, at 2:04 PM, Praskins, Wayne <Praskins.Wayne@epa.gov> wrote:

Dan -

Please see responses below (in red font).

Wayne Praskins | Superfund Project Manager
U.S. Environmental Protection Agency Region 9
75 Hawthorne St. (SFD-7-3)
San Francisco, CA 94105
415-972-3181

-----Original Message-----
From: Daniel Hirsch < **Ex. 6 Personal Privacy (PP)** >
Sent: Tuesday, October 6, 2020 10:57 AM
To: Praskins, Wayne <Praskins.Wayne@epa.gov>
Cc: Sanchez, Yolanda <Sanchez.Yolanda@epa.gov>; Walker, Stuart <Walker.Stuart@epa.gov>
Subject: EPA review of NAVY Building Remediation Goals

Dear Wayne,

We read with interest your letter of August 20, 2020, to the Navy "EPA Review of Navy Draft Evaluation of Radiological Remediation Goals for Onsite Buildings-Hunters Point Naval Shipyard Superfund Site."

We would appreciate it if you would provide us with the documents providing the basis for:

1. The claims that no contamination could possibly exist on surfaces inside any building higher than 6 feet on walls and none on ceilings.

= No, that's not what our letter says. The Navy's RESRAD BUILD evaluations assume that contamination is present only on the floor. We think a more conservative/protective assumption is to assume that the contamination may also extend to the lower walls. When applying the remediation goals (RGs), we would expect the Navy to provide evidence that the extent of contamination in the building being evaluated is consistent with this assumption (i.e., evidence that the upper walls and ceiling are not contaminated if the contamination is assumed limited to the floor and lower wall).

That there can't be contamination on the ceilings or on walls higher than 6 feet at HPNS is indeed what your letter says. I quote: "Our proposal uses a modified version of the BPRG calculator. We determined that one of the assumptions built into the BPRG calculator may be overly conservative and inappropriate at HPNS. That is the assumption that fixed contamination is present on all six interior building surfaces (four walls, ceiling, and the floor). To better represent conditions at HPNS, we worked with EPA's National Superfund Radiation Expert and ORNL to make use of a modified version of the BPRG calculator that assumes that any fixed

contamination remaining in the buildings is limited to the floor and lower six feet of the interior walls. Our preliminary calculations using the modified version of the BPRG calculator indicate that the majority of the radiological building RGs remain protective for fixed contamination."

You assert in the letter that you have "determined" that the assumption in the BPRG of fixed contamination present on all six building surfaces may be "overly conservative and inappropriate at HPNS" and that it "better represents conditions at HPNS" to modify the BPRG calculator to assume "that any fixed contamination remaining in the buildings is limited to the floor and lower six feet of the interior walls." I have asked for the basis of your determination that there can't be contamination above six feet. I gather that you have no such evidence at present, but if that is not the case, I would repeat our request that you provide the evidence if it exists.

=> We determined that the modified BPRG calculator may better model conditions at HPNS, not that there can't be contamination above six feet. The Navy retesting workplan includes measurements above six feet to verify that contamination is not present on the upper walls or ceiling. See Section 4.4.3 in the Parcel G workplan. If contamination is present, the modified BPRGs may not be appropriate.

2. The statement: "Our preliminary calculations using the modified version of the BPRG calculator indicate that the majority of the radiological building RGs remain protective for fixed contamination." We would appreciate if you would also provide the identification of the Remediation Goals (RGs) that are not protective and the comparison of those values with the values the Navy has been using, as well as the comparison of your modified BRPGs against the RGs that you now assert are protective.

=> Our letter doesn't say that the RGs are not protective. The preliminary evaluation described in our letter, using a modified version of the BPRG calculator, estimates cancer risk for four radionuclides in the 1 x 10-4 to 2 x 10-4 range. A risk above 1 x 10-4 is protective in some circumstances. The four radionuclides, the current RGs, and the modified preliminary remediation goals (PRGs) referred to in our letter associated with a 1 x 10-4 cancer risk are:

	RGs for Fixed Contamination - Residential Exposure	
	HPNS RGs *(dpm/ 100 cm2)*	**Modified PRGs at 1 x 10-4 cancer risk** *(dpm/ 100 cm2)*
Cs-137	5000	3650
Co-60	5000	2500
Eu-152	5000	2350
Eu-154	5000	2900

As indicated above, your letter says that you have modified EPA's own BPRG calculator to assume no contamination above 6 feet. Based on that assumption, for which we requested the evidence on which it was based, your letter says "the **majority** of the radiological building RGs remain protective." (emphasis added) The term "majority" indicates that for a minority of the radionuclides, the statement is not true. You have provided Modified BPRGs, at 10^-4 risk levels, for only four radionuclides. Our question was for the results for the "minority" of radionuclides assessed that, even with your modifications to the input assumptions, showed the Navy's RGs to be outside the protective range.

[As a side matter, we note that the values you report above are far lower than what would be produced by the BPRG calculator using its defaults with only the wall and ceiling inputs changed. We again request the documentation upon which these assertions are made.]

=> The modified BPRGs I provided are for the minority of radionuclides (four) I referred to in my response. (The Navy examined the RGs for 11 radionuclides. The modified PRGs for the other 7 are higher than the current RGs, indicating that the current RGs are protective for fixed contamination.) We did not conclude that any of the current RGs are outside the protective range for a couple of reasons: 1) a risk above 1 x 10-4 is protective in some circumstances; and 2) the risk estimates may decrease (and the PRGs may increase) if site-specific inputs are used in place of default values.

3. The statement: "We propose that BPRGs be used as limits on the removable fraction of the radioactivity (i.e.,dust). Our preliminary calculations using default exposure assumptions result in BPRGs substantially lower than 20% of the RGs." In addition to providing the documentation for this conclusion, we would appreciate it if you would provide the BPRGs you are proposing for removable radioactivity and the comparison to the RGs the Navy has been using.

=> As our letter indicates, we are unable, at this time, to support the use of RESRAD BUILD to evaluate the removable fraction of any residual radiological contamination in the buildings. In our letter we propose that the Navy consider the use of BPRGs. We are in discussions with the Navy about our proposal, and what site-specific assumptions might be appropriate in place of default exposure assumptions. As we have commented previously, the use of default values may provide inappropriately-high risk estimates, and I do not expect BPRGs based on default inputs to be adopted for use at Hunters Point. PRGs associated with a 1 x 10-4 cancer risk based on *default* exposure assumptions are:

	Limits for Removable Contamination - Residential Exposure	
	20% of RGs *(dpm/ 100 cm2)*	**BPRGs using default inpu x 10-4 cancer risk** *(dpm/ 100 cm2)*
Am-241	20	4.4
Cs-137	1000	149
Co-60	1000	126
Eu-152	1000	101
Eu-154	1000	204
H-3	1000	77,256
Pu-239	20	4.1
Ra-226	20	1.2
Sr-90	200	51
Th-232	7.3	2.4
U-235	97.6	4.7

These should be the same values you get from the online BPRG calculator.

These values are about double what we got from the online BPRG calculator. We would again ask to be provided the basis for the conclusions.

=> I reran the online BPRG calculator for one of the radionuclides (Ra-226) to see whether I made an error. I got the same value included in my email response (1.2 dpm/100cm2). I

selected the following when I ran the calculator: 1) a target risk of 10-4; 2) resident scenario; 3) dust as the selected media; and 4) secular equilibrium as the "source and decay output" option. I get a PRG of 5.48 x 10-3 pCi/cm2. One thing to check: the table I provided in my email response gives PRGs in units of dpm/100cm2. To convert from pCi/cm2 to dpm/100cm2 you need to multiply by 222.

We also note that while you assert that the default values may be "'inappropriately high" for HPNS and you don't expect them to be used, there are numerous factors that would suggest the defaults are inappropriately low for application to HPNS.

Wayne, we reiterate our request for the documentation that underlies the assertions made in your letter to the Navy.

Thanks,

Dan

Thank you.

Dan Hirsch